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CENTRAL INTELLIGENCE AGENCY  
**INFORMATION REPORT**

50X1-HUM

COUNTRY China

SUBJ. Shanghai Power Company's Riverside Steam Electric Station - Plant Data

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THIS IS UNEVALUATED INFORMATION

Total installed capacity (name plate ratings) 198,500 kw  
 Alternator Terminal Voltage 12,000/6,600 v  
 Transmission voltage 23,000 v  
 Distribution voltage 6,600 & 380/220 v  
 Frequency 50 cycles  
 Steam conditions (BH):  
 Station "A" - low pressure plant - 121000 kw 200 psi - 600 F  
 Station "B" - medium pressure plant - 62500 kw 400 psi - 750 F  
 Station "C" - high pressure plant - 15000 kw 1,225 psi - 925 F  
 1948 station output 961,231,292 kwh  
 Highest instantaneous peak (December 30, 1948) 173,184 kw  
 Max hour generation (December 30, 1948) 167,755 kwh  
 Power factor through max hour 0.84  
 Yearly Load Factor (1948) (based on Station Output) 73.05%  
 Yearly Capacity Factor (1948) 67.61%  
 Yearly Utilization Factor (1948) 91.18%  
 Tons of fuel max (coal plus equivalent oil) daily 2,890 ton  
 Circulating Water pumped daily (based on 3,000,000 kwh/day) 1,675,000 ton or 450,000,000 US gal

Station "A" Boilers - 18 Units

7 on oil - 6 on coal - 5 on oil & coal  
 Total steam - 1,235,000 lb/hr evaporation

Station "B" Boilers - 4 units

4 Units on pulverized fuel and/or oil  
 Total steam - 840,000/740,000 lb/hr evaporation

Station "C" Boilers - 1 Unit

On pulverized fuel and/or oil  
 Steam - 400,000/370,000 lb/hr evaporation

Station "A" Turbo-Generators - 10 Units (200 psi - 600 F)

1 - 25,000 kw Brown-Boveri  
 1 - 20,000 kw Metro-Vicks  
 2 - 18,000 kw General Electric  
 1 - 10,000 kw Parson  
 2 - 10,000 kw General Electric  
 2 - 2,000 kw AEG (one out of service)  
 2 - 3,000 kw Metro-Vicks (House-sets)

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Station "B" Turbo-Generators - 3 Units (350 psi - 750 F)

- 1 - 22,500 kw BTH
- 2 - 20,000 kw Metro-Vicks

Station "C" Turbo-Generators - 1 Unit (1,200 psi - 920 F)

- 1 - 15,000 kw AEG (topping unit, exhausting into 200 psi station steam line)

Current converting equipment for supply to DC-auxiliaries

- 3 - 750 kw Metro-Vicks rotary converter
- 1 - 750 kw BTH motor converter

SERVICE AND PHYSICAL DATA (31 December, 1948)SUMMARYService

Customers		126,277
Population Served		2,500,000
Area Served	Square Miles	21
Connected Load	kw	484,733
Generating Station, Nameplate Capacity	kw	198,500
Generating Station, Instantaneous Peak Load	kw	173,184
Generating Station, Annual Output to Feeders	Kv hr	961,231,000
Load Factor, Yearly	%	73.05

Personnel

SFC & WDPC	3,307
Distribution Department only	927

Physical Property - Distribution Department23 kv Transmission System:

Underground Lines	Miles	270.5
Overhead Lines	Circuit Miles	2.1
Substations	Equipped Buildings	10
Transformers	1 $\phi$ and 3 $\phi$ Units	47
Transformers	kVA	201,500
Oil Circuit Breakers in Substations	3 $\phi$ Units	88

6.6 kv Distribution System

Underground Lines	Miles	205.2
Overhead Lines	Circuit Miles	63.6
Substations	All Types	253
Transformers - Indoor	1 $\phi$ and 3 $\phi$ Units	272
Transformers - Pole Mounting	1 $\phi$ and 3 $\phi$ Units	224
Transformers - Outdoor, Ground Level	1 $\phi$ and 3 $\phi$ Units	70
Transformers - Total	1 $\phi$ and 3 $\phi$ Units	566
Transformers - Total	kVA	216,617.5
Transformers - Consumers' Property	1 $\phi$ and 3 $\phi$ Units	288
Transformers - Consumers' Property	kVA	161,255
Oil Circuit Breakers in Substations	3 $\phi$ Units	774
Power Fuses on Overhead Lines	2 $\phi$ and 3 $\phi$ Units	320

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380 Volt Distribution System:

Underground Lines	Miles	52.8
Overhead Lines	Circuit Miles	616.0
Oil Circuit Breakers in Substations	3 $\phi$ Units	257
Power Fuses (Over 200 amperes capacity only)	3 $\phi$ Units	343

Street Lighting System:

Lamps	Units	11,384
Lines	Circuit Miles	611.4

Plant for Power Factory Correction and DC Traction:

Synchronous Motors and Generators	Units	7
Synchronous Motors and Condensers	kVA	31,000
DC Generators and Rotary Converters	Units	8
DC Generators and Rotary Converters	kW	5,250
Mercury Arc Rectifiers	Units	2 x 3
Mercury Arc Rectifiers	kW	800
Static Condensers	kVA	15,837

Circuit Breakers' Protective and Supervisory System:

Overcurrent Inverse Time Limit Relays	Units	836
Overcurrent Time Lag Fuse Protection	Units	1,908
Balance Protection Instantaneous Relays	Units	696
Alarm Relays	Units	55
Remote Tripping Circuits	Units	5

Automatic Telephone System:

Telephone Overhead and Underground Lines	Miles	81.43
Telephone Instruments	Units	419

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All data include the Western District Power Company of Shanghai.

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